

V. AS. 232
#6 LFSAS. 232

Don. 8365

P. 20985

SUPPORTED BY VOLUNTARY CONTRIBUTIONS.

PREVENTION NOT CURE

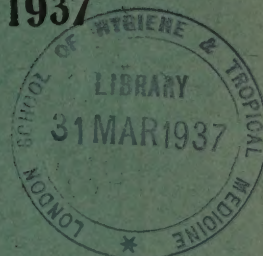
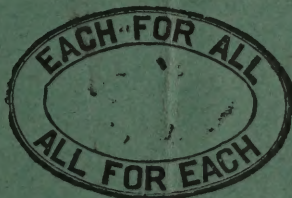
SELF-HELP NOT CHARITY

**ANNUAL REPORT
OF THE
CENTRAL CO-OPERATIVE
ANTI-MALARIA SOCIETY LD.**

**FOR THE
SIXTEENTH & SEVENTEENTH YEARS**

HELD AT

The Albert Hall on 24th January, 1937



"The gospel of good health should be first one for all nations—not the last as now too often it is."

"I strongly advocate that all mosquitoes and not only Anopheles should be placed under still more close control by public action. The cost of banishing them is small compared with the benefits of doing so."

RONALD ROSS.

President :

MAJOR H. LOCKWOOD STEVENS

Organising Secretary

The Ross Institute of Tropical Hygiene

Incorporated with

London School of Hygiene and Tropical Medicine

(University of London)

OFFICE :

**1/2A, Prem Chand Boral Street,
CALCUTTA**

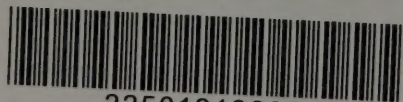
The Central Co-operative Anti-Malaria Society Ltd.

Registered under Act II of 1912 on 5th July 1919.

This Society is a purely non-official organisation founded for improving the sanitary condition of the villages of Bengal and is supported by voluntary contributions. It has been duly registered under the Co-operative Societies' Act and its funds are under Government audit. It may receive unconditional grants from philanthropic people, public or local bodies and the Government. It is neither a charitable society nor does it support a charity-fed one. The Society is guided by its duly elected Board of Directors according to its bye-laws. At least one-third of its directors are co-opted from rural societies.

Aims and Objects of the Society.

- (1) To organise or help in the organisation of a net-work of autonomous Co-operative Anti-malaria and Public Health Societies throughout Bengal for taking measures for eradication of epidemic diseases and to group these societies together for effecting larger sanitary measures and medical relief.
- (2) To initiate and guide rural societies, to take up preventive measures against Malaria, Kala-Azar, Cholera, Small Pox, Tuberculosis, Leprosy and other preventible diseases and to make sanitary improvements of their respective villages.
- (3) To carry on propaganda work in furtherance of the aims and objects of the society.
- (4) To provide for a regular and efficient system of guidance and supervision over the rural societies as far as funds permit.
- (5) To act generally as an expert advisory body and guide to these Public Health Societies and to further their interests in every way without assuming any controlling authority.
- (6) To organise branches of this Central Society at suitable Centres such as District or Subdivisional headquarters for furthering the objects of the Society.
- (7) To co-operate with organisations having similar motives.



22501913800



Major H. Lockwood Stevens.

WELLCOME
LIBRARY
Ann Rep
WC 28
.JL4
C14
1937

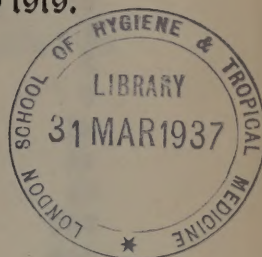
The Central Co-operative Anti-Malaria Society Ltd.

Registered under Act II of 1912.

Founded :—8th April 1919.

Registered :—5th May 1919.

Patron



Dr. Rabindra Nath Tagore, D. LITT ; N. L.

Board Of Directors For 1935 & 1936.

1. Babu Purna Chandra Coomer—*President.*
2. Babu Sailajlal Chatterjee, B. L., (Nimta, 24 Parganas.)
3. Babu Sailendra Nath Banerjee, B L. (Bhadrakali, Hooghly)
4. Babu Dwijendra Nath Dutta, M.A., B.L., (Devanandapore, Hooghly)
5. Dr. Tinkari Ghose, B.A., L.M.S., F.C.S.,
6. Babu Jitendra Nath Bose, M.A. (Nabagram—Moyna, Burdwan)
7. „ Suresh Chandra Ghosh, B.Sc., B.L., (Swastipore, Nadia)
8. „ Satya Narayan Batabyal (Sandhipur, Burdwan)
9. Rai Dr. Hiralal Sinha Bahadur, B A , L.M.S., F C.S., (Bhastarah, Hooghly)
10. Babu Chittasukh Sanyal, B E., *Jt. Secretary.*
11. Rai Dr. G. C. Chatterjee Bahadur, M.B., F.R.I., (Lond)

Hony. Secretary & Hony Treasurer.

**THE BOARD MET 6 TIMES DURING 1934-35 AND
6 TIMES DURING 1935-36.**

Astt. Secretary.

Dr. Amulya Nath Mitra, M.Sc., M B.

Honorary Organisers :

- 1 Pandit Patiram Roy
- 2 Babu Jugal Pada Sen
- 3 Dr. Raghunath Chatterjee, M.M.F.
- 4 Dr. Tustoo Charan Ghose
- 5 Babu Satya Narayan Batabyal

Advisory Committee.

- 1 Rai Bahadur Dr. G. C. Chatterjee, *President*
- 2 Babu Chittasukh Sanyal, B.E
- 3 Dr. A. N. Mitra, M.Sc, M.B, *Secretary*
- 4 Dr. Nagendra Nath De, M.B D.T.M. *Publicity Officer*
- 5 Dr. Nonilal Ghose, M.B., D.T.M., *Kala-Azad Officer*
- 6 Babu Kshetra Nath Banerjee
- 7 „ Jugalpada Sen
- 8 Dr. Raghunath Chatterjee, M.M.F.
- 9 Dr. Bhupati Nath Mitra, M.B.
- 10 Dr. Tustoo Charan Ghose

THE ADVISORY COMMITTEE MET EVERY TUESDAY & FRIDAY

AT 8 P.M.

Development of Societies

Year	Number of Societies Formed	Registered
1917	2	0
1918	3	1
1919	4	2
1920	19	4
1921	21	8
1922	31	9
1923	55	19
1924	384	29
1925	500	43
1926	869	263
1927	1,090	444
1928	1,236	566
1929	1,367	668
1930	1,434	769
1931	1,640	867
1932	1,730	907
1933	1,855	950
1934	,000	920
1935	2,064	964
1936	2,117	993

Total Number of Co-operative Anti-Malaria Societies

District by District on 31. 12. 1936

Burdwan Division

Dist	Total No.	Regd.
Burdwan	188	121
Birbhum	65	32
Bankura	28	11
Midnapore	103	53
Hooghly	232	151
Howrah	95	40

Rajshahi Division

Dist	Total No.	Regd.
Rajshahi	37	29
Maldah	24	20
Dinajpore	7	1
Jalpaiguri	4	0
Rangpore	12	6
Bogra	12	6
Pabna	64	26
Darjeeling	0	0

Dacca Division

Dacca	28	8
Mymensing	20	4
Faridpore	98	22
Bakharganj	43	5

Presidency Division

24 Parganas	302	100
Calcutta	1	1
Khulna	277	163
Jessore	197	84
Nadia	108	44
Murshidabad	32	7

Chittagong Division

Chittagong	26	8
Noakhali	63	44
Tippera	33	7

AWARDS OF The Central Co-operative Anti-Malaria Society Ltd.

Sir Kailash Gold Medal :—

- 1923 Babu Tincari Mukherjee (Panihaty, 24 Parganas)
- 1924 Dr. Amulya Nath Mitra, M.B., M.Sc.
- 1925 „ Jyotirmoy Banerjee, M.B., D.P.H., (deceased)
- 1926 „ A. K. M. Abdul Wahed, B.Sc., M.B., M.M.F.
- 1928 „ Dharendra Nath Sanyal, M.M.F.
- 1929 Late Kishori Mohan Banerjee, (Panihaty, 24 Pgs)
- 1930 Dr. Bhupati Nath Mitra, M.B.
- 1931 „ Noni Lal Ghosh, M.B.
- 1932 „ B. Gangooly, M.B., D.P.H., (D.H.O., Hoogly)
- 1933 „ Girija Kanta Chakravarty, M.B., D.P.H.,
(D.H.O., Rajshahi)

Bijay Singha Medal (Silver)

- 1923 Babu Sunit Kumar Banerji (Ghola, 24 Parganas)
- Do (Surgical Pocket case)
- 1924 Dr. Noni Lal Ghose M.B., D.T.M.
- Do (Gold Medal)
- 1925 Late Pulin Chandra Gangooly, (Jotegiri, Howrah)
- 1926 Babu Kshetra Nath Banerjee (Nimta, 24 Pergs)
- 1928 „ Jugalpada Sen, (Subalpore, Hoogly)
- 1929 „ Sailendra Nath Banerjee, B.L., (Bhadrakali, Hoogly)
- 1930 „ Kali Kumar Mitra, (Ghargoal, Hoogly)
- 1931 Dr. Tustoo Charan Ghosh, (Barijhaty, Hoogly)
- 1932 Babu Joygopal Sarkar, (Rewee, Khulna)
- 1933 „ Kunja Behari Sardar, (Sardarati, 24 Pergs)
- 1934 „ Makhan Chandra Chowdhury, (Haripur, Pabna)
- 1935 Dr. K. P. Mukherji, M.B., D.P.H., (D.H.O., Howrah)

Sir Hariram Goenka Gold Medal :—

- 1924 Babu Sunit Kumar Banerji, (Ghola, 24 Parganas)

Dr. Bentley Gold Medal :—

- 1925 Pandit Patiram Ray, (Bhaduria 24 Parganas).
 1931 Babu Bama Pada Ghosh, (Dafarpore, Howrah)
 1932 Dr. Kunja Behari Chowdhury, (Nityanandakati,
 24 Parganas)

Willcocks Gold Medal (Awarded by Babu P. C. Coomar)

- 1932 Babu Monmatha Nath Mittra, (Kalachara, Hooghly)
 1933 „ Fani Bhusan Banerjee, (Barijhaty, Hooghly)
 1934 „ Gobardhan Pal (Porabazar, Hooghly)

Stethoscopes :—

- 1924 Dr. A. K. M. Abdul Wahed, M.B., B.Sc., M.M.F.
 „ Raghunath Chatterjee, M.M.F.

Silver Medals :—To the best medical volunteers :—

1924 :— Makhanlal Mukherjee 2 Haripada Ghose 3
 Barada Kanta Roy 4 Prafulla Kumar Bose 5 Pramatha Nath Paul
 6 Surendra Mohan Biswas 7 Jnanendra Nath Santra 8 Jogesh
 Chandra Karmakar 9 Nirmal Chandra Das 10 Dr. Bhajahari Das
 (Kaijury) 11 Dr. J. M. Sen Gupta (Rohanpore.)

1935 :—1 Tustoo Charan Ghose 2 Kali Prasanna Roy 3
 Debendra Nath Das 4 Harihar Sanyal 5 Nagendra Nath Palit
 6 Pabitra Chandra Sarkar 7 Gopal Mozumdar 8 Priya Lall Sen
 Gupta 9 Md. Golam Nabi 10 Provash Chandra Banerjee 11 Jnan
 Sankar Das Deb 12 Upendra Nath Ghose 13 Prankrisna Mukherjee
 14 Kanchan Bhusan Dutta

1926 :—1 Ialmohan Saha 2 Arun Chandra Barua 3 Kailas
 Chandra Mazumdar 4 Hem Chandra Samaddar and 4 others.

1928 :—1 Prosad Das Banerjee 2 Balaram Dutta 3 Ramendra
 Nath Kundu 4 Hirendra Nath Dutta 5 Suresh Chandra Chowdhury
 6 Kshitish Chandra Mazumdar 7 Hemendra Narayan Chakravarty
 8 Haraprasanna Bhattacharya

1929 :—1 Dr. Suresh Krishna Talukdar. L.M.F. 2 Panchu Gopal Samanta 3 Dr. Gour Chandra Koila L.M.F. 4 Dr. Hiralal Ghose 5 Dr. Manindra Nath Goswami, L.M.S.

1930 :—1 Md. Ejaharali Biswas (Bharukhali) 2 Ashutosh Sarkar (Jasai) 3 M. O. Dogachy (Pabna).

1931 :— Dr. Kalipada Gangooly (Sardarati) 2 Sashibhusan Sardar (Sardarati) 3 Ram Chandra Naskar (Bhadrakali) 4 Satish Chandra Ghose (Kamdebpor) 5 Kishori Mohon Chakrabarty (Boral Satghora) 6 Late Moulvi Abdul Bari (Baligari) 7 Haripada Kumar (Naity) 8 Guru Prosad Ghose (Naity) 9 Bankim Behari Ghosh (Naity) 10 Sailendra Nath Chatterjee (Naity) 11 Panchanan Ghose (Pairagacha) 12 Keshab Ch. Ghose (Pairagacha) 13 Butto Kristo Mitter (Kalachara) 14 Sachipati Roy (Kalachara) 15 Sushil Ch. Bhattacharya (Boluhaty) 16 Sushil Ch Kumar (Boluhaty) 17 Moni Bhusan Ganguly (Boluhaty) 18 Subodh Chandra Mukerjee (Boluhaty) 19 Bhadreswar Ganguly (Jotegiri) 20 Krishnadhane Ganguly (Jotegiri) 21 Bishnupada Mondal (Jotegiri) 22 Paresh Chandra Ghosh (Dafarpore) 23 Krishna Prosad Ghosh (Dafarpore)

1932 :—1 Anathnath Chatterjee (Borai) 2 Surendra Nath Das (Debanandapur) 3 Fanindra Nath Rishi (Debanandapur) 4 Probodh Ch Mukherjee (Naity) 5 Gour Mohon Dutta (Subalpur) 6 Guiram Chakrabarty (Antpur) 7 Sushil Kumar Chatterjee (Bansdaha) 8 Md. Fouzdar Rahaman (Howalkhali) 9 Ajit Kumar Banerjee (Boluhaty) 10 Upendra Krishna Samanta Ray (Bhogpur)

1933 :— 1 Munshi Golam Sarwar (Ghuni) 2 Amulya Charan Banerjee (Madhabkaty) 3 Ambika Charan Mondal (Beanta) 4 Dr. A. K. G. M. Golam Sasul Kaliani Chhoygharia) 5 Sachindra Nath Bhattacharya (Sanitary Insp., Hanskhali) 6 Manik Gupta (Goralgacha) 7 Haridhone Ganguly (Sukchar) 8 Jotindra Nath Mukherjee (Telihaty)

1934 :—1 Mahadeb Roy Chowdhury (Birati) 2 Ramanath Mondal (Hederhati) 3 Dr. Panchanan Batabyal (Sandhipur) 4 Dr. A. K. M. Motiar Rahaman (Kaliani), 5 Guru Prosad Pal (Sany ; Insp ;

Hoogly), 7 Bholanath Banerjee (Chandbati) 7 Gopal Chandra Pal (Baligari) 8 Satish Chandra Malik (Gobindapur).

1935 :—1 Babu Nalin Behari Bose (Sanitary Inspector, Moheshpur, Jessore) 2 Babu Shiba Prosad Roy Cnowdhury (Moheshpur) 3 Babu Amulya Ratan Bose (Madhabkati) 4 Babu Godadhar Nayak (Kasha) 5 Babu Amar Nath Palit (Sanitary Inspector, Hoogly) 6 Babu Mohanlal Bose (South Kotwali, Faridpur) 7 Mv. Golam Ahiya (Pakdah, 24 Pergs).

Abinash Gangooly Memorial Medal.

1929 :—Sisir Chandra Bhattacharya (Natagore).

1930 :—

Foundation of the Central Co-operative Anti-Malaria Society Ltd.

History of Anti-Malaria Movement in Bengal.

Ronald Ross's epoch making discovery of transmission of malaria to human beings through the bite of infected anopheline mosquitoes was made in Calcutta in 1898 when Dr. G. C. Chatterjee, the Founder Secretary of the Central Society had just begun his service as a House Physician at the Calcutta Medical College Hospitals and had occasions to supply Ronald Ross with materials for his Research work. Later on when Dr. Chatterjee was posted at the Pathology and Bacteriology Laboratory of the Medical College, he took special interest in the malaria problem as this was the greatest scourge of Bengal, most of its old and prosperous villages and towns being gradually depopulated and overgrown with jungles due to ravages of this fell disease. He devoted his leisure hours in the study of mosquitoes and malaria parasites in the laboratory as well as in his own village and elsewhere, and studied systematically all publications on anti-malaria operations that were carried out in different parts of the world.

In course of time, he came to know of the marvellous success achieved by Col. Gorgas in stamping out malaria and yellow fever completely from the Panama Canal Zone and of Sergeant brothers in checking malaria in Algeria by taking proper anti-mosquito measures on the lines suggested by Sir Ronald Ross. Having a keen interest in improving the sanitation of his village although Dr. Chatterjee had already initiated improvements of the drains by putting in bed bars and gradual filling up of insanitary ditches of his village through the Panihati Municipality, of which he was an elected Commissioner, he was not able to stamp out the disease owing to several difficulties not within the scope of the municipality.

He felt the necessity of creating public opinion for which he delivered several lantern lectures on "Malaria and methods for its prevention" in his village and in the neighbourhood. In order to create an interest among the medical practitioners of Calcutta, he delivered a lecture on "Preventible diseases in Lower Bengal" at the Calcutta Medical Club in 1908. In 1912 with the collaboration of Mr. Chittasukh Sanyal, B.E, (Retired Engineer) and Dr. Sarashi Lal Sircar, M.A., L.M.S. (Retired Civil Surgeon), he created the Anti-malaria League, the office of the league was located at the Medical Club premises at 72, Harrison Road, Calcutta. The league published several pamphlets in Bengalee and English on malaria, which were distributed among the people in the rural areas and lantern demonstrations were given at suitable centres.

In 1913 about 450 people died of malaria at Panihaty within 3 months. The people then realised the necessity of taking anti-mosquito measures in the village. The nucleus of the first village anti-malaria society on co-operative basis was formed at Panihaty in 1914, but the society was not incorporated under the Act, till march 1918. Two more societies were organised in the neighbouring Sukchar and Sodepore villages at an early date which did valuable work in connection with the prevention of Malaria, Cholera etc, by paying voluntary contributions and who also employed a medical officer jointly on subsidy basis. On the successful working of these 3 societies for one year, foundation of a central organisation at Calcutta for creating and guiding anti malaria societies on similar lines all over rural Bengal originated in the mind of Dr C. A. Bentley, the then Director of Public Health, Bengal and the Central Society was organised the public meeting held at Calcutta on the 8th April 1919. A Committee was appointed to draft the byelaws and the Central anti-malaria society was registered under the Act on 5th July 1919, under the able guidance of Mr. J T. Donovan, I.C.S. the then Registrar of Co-operative Societies of Bengal.

AN APPEAL.

The short summary of the diverse activities of the Central Co-operative Anti-malaria Society, given in this report must appeal to those who have interests in the welfare of Bengal, specially in the problem of the eradication of Malaria and improvement of its decadent rural areas. With a view to improve the health and agriculture of Bengal by flushing the country with valuable silt-laden flood water during the rains and for resuscitation of the dead or dying rivers and other water passage by the voluntary efforts of the people, the Central Society organised conferences at different places where several resolutions were passed; the people have realised the value of this movement and have already carried out valuable works in different areas with their own resources. The Irrigation Dept. have taken up several small schemes in right earnest.

The Central Society has been trying to place in the hands of the rural people results of the latest researches on prevention of malaria and other epidemic diseases, that are practicable in this country.

During the last 17 years, the society, in trying to organise a net-work of anti-malaria societies throughout Bengal convened conferences at suitable centres in order to encourage the local societies and to coordinate their work. But for its slender resources, it has not been able to organise more than 2120 societies among 84,000 malaria stricken villages in Bengal, although thousands of societies are in the course of formation.

The accounts of the society for the last few years reveal steady fall in contributions both from Government and philanthropic people for which the society has been obliged to restrict its activities. The society has no Endowment Fund and relies mainly on contributions from Government and philanthropic people and organisations.

We, therefore appeal for generous financial support from everybody, so that the society may continue to carry on the useful work, it has been doing for improving the health of villages in Bengal.

Any contribution however small, will be thankfully received.

G. C. CHATTERJEE

Hony. Secretary.

THE CENTRAL
CO-OPERATIVE ANTI-MALARIA
SOCIETY, LIMITED.

Secretary's Report.
FOR
1935 & 1936.

The Annual General Meeting for the year ending June 1935 not being held on account of some unavoidable cause, this report includes the report of the society for the two years 1935 and 1936.

In accordance with the system adopted in previous years, the writer begins by giving a synopsis of the progress made throughout the world on all aspects of the problem of malaria, in as non-technical a language as possible in order to be understood, by the representatives of thousands of rural societies distributed throughout the province, which happen to be connected with the Central Co-operative Anti-Malaria Society Ltd., and who come to attend the annual function of the society—this is required not so much as a review, but as an exploration to find out whether anything new has been found out by Science, during the last two years by the adoption of which the effort being put in by these societies to fight malaria in their respective areas may be lightened.

First noticeable improvement in the knowledge of malariology, has been made in knowing more about the malaria parasites themselves than was known before, and that is entirely due to the accident of malaria parasite helping to cure a certain type of paralytic cases. To produce this malaria, in a paralytic patient, it is necessary to

satisfy the following conditions—mosquitoes infected with a particular strain of a particular species *Plasmodium vivax* has to be used, so as to produce fever which is within control and uniform in its symptoms and will be always successful in producing the infection. To do this, malariologists have come to know of several strains of *Plasmodium vivax* (benign tertian malaria parasite) one of which due to its uniform effect and its easy transmissibility has become known as McCoy strain.

No one knew before, that there are different strains of *Plasmodium vivax*. Methods of artificial culture of malaria parasite in test tube which can be kept up indefinitely like the kala azar parasite being not known, a method has been found out to keep this strain indefinitely, by keeping it going by passing it from man to mosquito and from mosquito to man again. Several strains of this species biologically differing but having same characters, some both biologically and morphologically different have also been discovered in this way, a thing not known before). The knowledge of immunology about malaria parasite has increased also, in this way. For example, a paralytic case belonging to Negro-race bitten by a mosquito infected with *Plasmodium vivax* will be found not to get fever due to immunity to this, but when infected by *Plasmodium falciparum* will get the disease whereas it has become known that a man of the white race is not so immune to either (*Plasmodium malaria* (quartan), which is not as a rule used on account of the uncertainty of its action.) Not only that, a person getting malaria from one strain will remain immune to the **same strain for several years, but will not be immune to another strain, getting malaria, if infected by it.** This explains how migration of people from one malarial place to another, leads to increase of malaria.

Next progress in our knowledge is regarding the mosquito itself. To carry on the above inoculation of malaria into paralytic cases for their cure, it is necessary to guard against infection from other species of malaria parasite which may have been present, so it has become necessary to breed the vector in artificial insectary for several generations from egg to mosquitoes and again from mosquito to eggs and not to use mosquitoes bred in nature. In doing this it has been

found out that the vector in Europe, the *A. maculipennis*, has got again a sub-species which is produced by the factor of it having to depend for its blood meal from cattle, it being distinct from those sub-species which are used to blood meal from man—the former being characterized by an increase in number of teeth in the maxilla than the latter. This sub-species of *A. maculipennis*, which has got biting apparatus modified by biting cattle is termed Zoophilic. It is not capable of biting man, hence becomes incapable of transmitting malaria, so we get the explanation of the peculiar phenomenon found in several European countries, namely “there can be anophelism and that of the vector type without occurrence of malaria epidemic” and so one of the methods suggested or adopted accidentally in those countries, for prevention of malaria, is to have stall fed cattle, to attract these mosquitoes and convert them into Zoophilic condition. The following quotation is given from a paper on biological malaria control by Hackett how in North Western Europe, malaria has disappeared due to the rapid extension of the practice of crop rotation which has produced condition favourable for stall feeding of cattle and hence producing Zoophilic condition of the dreaded vector of Europe, *A. maculipennis*. Beginning in North Western Europe there has been during the last century a rapid extension of the practice of crop rotation. Every two or three years the fields are planted with legumes for the enrichment of the soil. This would result in an excess of fodder crops unless the economic balance were restored by an increase in livestock. Thus animal husbandry develops as an economic necessity and stall feeding substitutes natural pasturage. There is no grazing land left, for instance, in north Italy. This produces optimum conditions for the deviation of the zoophilic anopheles. The question is whether this zoophilic *A. maculipennis* can again become converted into a carrier mosquito by biting men, has not been found. Now whether method of conversion of carrier mosquitoes in this country, *Listonii*, *Ludlowii*, *Phelippinensis* or *Minimus* into zoophilic condition is possible, no one knows.

The next important point, which is not a new discovery but which is development of the already known fact is the information, whether in the plains of Bengal, there is any species of dangerous anopheles which breeds in running streams, in addition to those which

are known to breed only in stagnant pools: Elucidation of this point is very important, for if this be proved, our method of prevention has to be changed entirely. To make the point clear, a little digression is necessary. In hilly regions in Assam and elsewhere due to the prevalence of the stream breeding anopheles, the difficulty of its eradication has become immensely heightened, for these small hill streams, rushing down from great heights to broad rivers of the plains lower down, cannot have any chance of being inhabited by any fish, larvivorous or not except a few species of fish provided with suckers. When these streams form small pools in their courses and as there are stream breeding anopheles there, these will develop in these, but if these be covered over by overgrowth of vegetation, these do not breed there. If these places become inhabited and these overgrowths of jungles are removed, breeding of these anopheles takes place and hence clearing of jungles for cultivation and settlement of human beings, as in tea gardens are always associated with increase of malaria. So clearance of overgrowths from streams or water courses, which is one of the most important antimalarial measure in the plains, will produce just the reverse effect. To advocate this growth of vegetation in the plains, where the stream breeding mosquitoes are known not to be prevalent any where, will lead to blocking of the water courses. This will prevent also larva eating fish, of which any number of species can be found in the plains, from getting access to these larvae. In confirmation of the above point, the writer, after the above portion was typed, having occasion to visit Shillong was astonished to find several large, broad water courses passing through the heart of the town, which due to impediment to their course by big boulders are not passing in rushing streams, have not got a single fish, big or small, as their denizens—a condition impossible to think of in the plains. Absence of growth of mosquito in these is due to accident of elevation (4000 ft. above sea level). It is not that fish cannot live in these; from small collections of water not connected with these, any number of *Haplochilus*, *Barbus*, *Rerio* were found by the writer.

Now, about the choice of anti-larval measure for this country, use of larvivorous fish by large number of societies is getting more and more prevalent than before. This society has published a series

of papers dealing with the breeding habits of the various types of larvivorous fish to be found in this country. It is gratifying to learn that publication of a book giving up to date information about larvivorous fish of India has been undertaken by the conjoint labour of the Malaria Survey of India and Zoological Survey of India. It is to be noted also that the present Director of Public Health, Bengal, has issued a circular to all the Local Bodies in Bengal, asking them to utilise more and more larvivorous fish for prevention of malaria. This has lead more and more to improvement of the tanks in the villages in Bengal, which are the chief source of malaria. In a recent paper on "Malaria in New Mexico" the writers state "we believe that the spread of *Gambusia* has been of material assistance in the reduction of malaria in New Mexico and should not be omitted from any anti-mosquito practice."

Now, before I conclude the synopsis of the new discoveries about malaria it is necessary for me to state that the experiments which are being made to sterilize the human system of the virus of malaria with a view to make the mosquito carrier incapable of carrying it to another man, has not met with success so the old anti-larval measures still hold the ground. The use of quinine instead of plasmochin to destroy the asexual cycle of malaria parasite for the time being, so that there will be less development of sexual forms which developing in the mosquito stomach produces epidemics has become more prevalent than before, due to the marked reduction in the price of quinine which has lead to over stocking of quinine in Government's hands.

But the most important work which this society has taken up, is the creation of healthy public opinion regarding big river training work, which the Irrigation Department is undertaking, both for improvement of public health as well as for irrigation of crops, both in tidal and non-tidal areas of Bengal. We will deal with this subject in this report, in a little more detail than was done before and for the following reason. The Central Society having been relieved to a great extent of creating new societies, helping, guiding and inspecting them this being now managed more effeciently by the public health staff of

the local bodies throughout the province, we have now more opportunity than before for doing this propaganda work, as on this depends prevention of man made malaria which is going on apace extensively in the tidal portion of Bengal, which had hitherto remained free from malaria.

So the attention of the Central Society has been concentrated more and more on helping in the improvement of the numerous water courses which traverse the plains of Bengal, which have become terribly disorganised and that mainly due to the action of man. Due to extensive cultivation of rice, the staple food of this country, by the people in lowlying lands, slightest increase in level of the bed of the rivers in the rainy season in non-tidal areas or during the flow tides in tidal areas also, will lead to destruction of crops by flooding, so, extensive longitudinal or marginal bunds have been put up along the course of rivers and cross bunds have been put up also by fisherman to catch fish. This has lead to deposition of silt in the river beds and not on the surrounding low lands, which leads to catastrophic flooding during the rainy season as well as to extensive stagnation of water later on and consequent epidemics of malaria. To prevent erection or repair of these bunds by persuasion, by pointing out to the people, zemindars, tenants, and fishermen about the evil effects of bunds, a series of conferences have been organised by this society at various localities from time to time. This has lead to remarkable result throughout the province, so that the river reclamation work by the Irrigation Department has become possible. It is significant that the Government represented by its Irrigation Department is carrying on this propaganda work against marginal embankments by a series of broad cast lectures by their own officers. How much field there is for this propaganda work will appear from the following example of confusion of ideas prevalent not only among the poor illiterate mass but also among the highest educated classes: any one travelling by E. B. Railway from Calcutta to Darjeeling or Shillong on crossing the Padma by Hardinge Bridge at Paksey, this year during the month of September or October could not have helped noticing extensive flooding of areas on both sides of the railway lines from Bagoola to Chuadanga. Before reaching Chuadanga the swollen up river Mathabhanga would have been seen. It is necessary

to state that this river is a live one, originating from the Padma. It bifurcates into two live rivers, one named the Churnee falling into the river Hooghly and the other ending in a big tidal creek named Icchamati which later becomes the Jaboona and later on, Ray Mongal. This river, Mathabhanga, being on a ridge as it were, feeds or is capable of feeding its distributories situated on its left side, namely from above downwards, the Coomar, the Noboganga, the Katkea, the Chitra and the Bhyrub, besides its terminal branches the Churni and the Icchamati, the latter again capable of feeding the Kodla and the Sonai; and the Bhyrub feeding the Betna and the Kabotak, the source of supply of its water being the Padma is inexhaustible. During the rains the discharge of the Padma swells up from 50,000 cusecs to as much as $2\frac{1}{2}$ million cusecs of water which pass through its bed. The more these distributories of the Mathabhanga will draw, more water will this river be able to draw from the Padma and more water will pass through these distributories, the more healthier and prosperous will the areas be through which they pass (districts of Nadia, Jessore, Khulna and 24 Pergannas), and less will be the congestion in the river Padma which is producing disastrous flooding lower down. With this end in view, the Noboganga has been re-connected by a cut by the authorities with the Mathabhanga recently which is named Gaznavy's Cut, so also the Bhyrub has been joined subsequently by the Bijoy Cut. Be it remembered that the late celebrated river engineer Sir William Willcocks, put in a proposal for improvement of these regions, for passing more water through not only the Mathabhanga but also the rivers situated higher up namely the Jalangi, the Kalkali and the Bhagirathi, by making a barrage, or obstruction in the bed of the Padma itself somewhere near Kushtia, which though was thought admirable by other river engineers but could not be carried out on account of immense cost. Be it remembered also the recent strengthening of the piers of Hardinge Bridge and the protected banks of the river Padma adjoining the bridge by piling up of huge quantity of boulders by the State Railway has been the cause of retarding the flow of water down the bed of the river below the bridge, so much so that any one crossing this river by the bridge could not but help noticing the huge sand bank formed even during the rainy season on the southern side of the bridge. This slowing down of the current passing down the river has the effect

of acting just like a barrage as suggested by Sir William Willcocks providing a head for improving the Nadia rivers and so this year more water has passed through the branches of the Padma than it did for several years before, but as no provision has been made for passage of water through their distributories, extensive flooding and consequent miseries of life have occurred throughout the vast area, this year, on account of which there is more cogent reason for opening out or joining as many of the distributories mentioned above to the Mathabhanga in addition to the Bijoy and Gaznavy's cuts. This would have relieved congestion which occurred this year and would have made prosperous the areas through which these pass. In fact, one of the local correspondents of a well informed daily news paper has strongly advocated this, but strangely enough, one of the chief organisers of a conference held recently in this locality which was attended by two of the highest Government Officials in his address to them, said that he could not guess why this devastating flood took place this year in the Nadia district and asked the authorities to start research to find out the cause. As he was interested in the Churni and so in keeping the Mathabhanga as much flowing as possible, he advocated closing of these two cuts if necessary for preserving Mathabhanga and not to make more connections under any condition. Our movement being interested in the Nowkhali river situated in the Khulna district, lower part of which is tidal and the upper end being connected through the Betna with the Bhyrub which again gets its supply of water from the Mathabhanga which later would have easily received more water (in fact, it received more water through the Bijoy Cut than ever before), if this cut connecting the Mathabhanga with the Bhyrub has functioned properly, looked up with expectant eyes to the action which the authorities will take for passing more water through this cut—as all cross bunds have been removed by the local societies in the bed of the Nowkhali and the Irrigation Department and the District Board are going to clear its bed at an expenditure of Rs. 20,000/-/-.

Leaving aside the non-tidal portion, we will have to say something about the tidal portion, on which depends prosperity and well being of a good portion of Bengal, depending as it is, entirely on the maintenance of the proper regime of the rivers, as all non-tidal rivers

find their exit into the sea through these tidal creeks. In the tidal regions, this swollen condition of the water courses taking place twice during 24 hours, every day, which increases much more during equinoxial spring tides, the people in many cases, resort to putting up extensive marginal bunds. This has the effect of silting up of the tidal creeks much more quickly than in the case of nontidal rivers. It does not require an imagination of a very high order to make out, that not only the coastal areas will be waterlogged, but all the sweet water rivers coming from above will empty later on into a huge marsh, on the border line at the junction of the non-tidal and tidal rivers, as has happened in Italy in the case of the river Po at its outlet into the sea and in the British Guiana, where huge pumps have to be put up to pump out water into the sea. This will lessen but not do away with extensive anopheles breeding places, as has been observed by Hackett recently in Italy, where he found larvae of anopheles growing in these areas so much, that they can be collected in bucket fulls. This catastrophe has been prophesied by Mr. C. Addams Williams in his book "Rivers of the Gangetic Delta," in 1919, and this is happening now on an extensive scale everywhere in Midnapore, Howrah, 24 Pergannas, eastern portion of Khulna and Backergunge Districts. This danger foreseen by Mr. Addams Williams due to a wrong system which was in force quarter of a century ago but which he could not remedy, due to extensive vested interest, is however being attempted to be averted by the present officers of the Irrigation Department, though ineffectually, on account of the higher authorities not having realised the true position of affairs, so the Central Society has joined hands with this department, in mitigating as much as it lies in this small organisation's power, this misery, by advising the people whose vested interest is standing in the way of restoration of river regime, not to keep any homestead or cultivated lands in the spills of water courses and to utilise them, if possible, for fishery. That we are making headway, the following concrete instances will show :—

1. A tidal creek named Nona Gang or Bidyadhari, passes directly northward from a big land-building creek named Haroa Gang, situated a few miles east of Calcutta. It passes fully 30 miles up into the interior of the Baraset Sub-Division. Fortunately no

marginal bunds have been put up in it, so that it got an uninterrupted chance of land building for years, so much so, that all the cultivated lands here are in terraces, one above another, as in hilly regions. In recent years, to increase their income, the zemindars allowed fishermen to put up innumerable cross bunds, with consequent effect—congestion of the river and stagnation of water. With the removal of these bunds by the people themselves helped by the authorities (Irrigation Department and the Civil authorities), being influenced by our propaganda, prosperity has returned to the place, in spite of the fact that the tides, presumably bringing saline water, is now going higher up than ever before.

2. A big beel called Dhokra Beel in Barasat Thana, being the meeting ground of the upland sweet water from above and tidal waters from below, though settled to numerous cultivators, could not be cultivated for the last 40 years due to stagnation of water, on account of cross bunds with fishing devices being put up in the exit channel which is tidal, lower down, by a zemindar. The cultivators being convinced by our propaganda put up a petition to the Magistrate to remove these obstructions to the tidal inflow into the beel, instead of opposing it, as they do elsewhere, as it containing saline water is likely to ruin their crops. The vested interest of the zemindar to put obstruction to drainage enjoyed for 40 years has been done away with, by a declaration of the channel by Government, under the Embankment Act. The uninterrupted flow in and out of the tides is doing no harm to the crops, which is giving as much as 16 mds. of rice per bigha, in the marginal shallow areas of the beel, while the middle deeper portion is being utilised as a fishery over which every one has a right to fish, instead of being one big man's property, being as it were a common grazing ground for the people living around the beel.

3. Howrah district has the advantage of the tides, if allowed to do so, of passing through the numerous ramifications of the mighty silt carrying torrential rivers, the Rupnarain and the Damodar and also some branches of the Hooghly, into the interior of whole of the district. A portion of the district, the Shampore thana, is a sort of a peninsula. It is bounded on one side by the mighty Rupnarain, and on the other side by the mighty Damodar, lower ends of both of which are

tidal. This peninsula is traversed by numerous cross channels originating on one side from the Rupnarain and on the other side from the Damodar. The tides of the Hooghly, passing into the tidal portions of the Rupnarain and the Damodar, pass to the centre of the peninsula through these narrow channels which are in the process of active land building. Influenced by the same land hunger, extensive marginal embankments have been put up in these land building channels, and self acting sluices to prevent flow tides passing in and to allow ebb tide to pass out, have been put up in some of these channels. The people enjoying up to now, absolute immunity from malaria, fearing they will fare the same fate, as those living in the interior, which is extremely malarious, have started petitioning the Government to remove the sluices, to allow the tide to have uninterrupted access to the interior. A conference was held there, which was attended by the Chief Engineer of the Irrigation and Public Health departments and the Executive Engineer of Cossay Division, and a discussion took place how to do away with the old time policy of sluicing. In the areas of the Howrah district, lying between the Damodar and the river Saraswati, the Health Officer, on his own initiative is influencing the local bodies as well as the antimalaria societies, to utilise their antimalaria funds in the laudable attempt for removal of all obstructions to tidal flow in the shape of the marginal as well as cross bunds. He has the satisfaction of finding more areas being beneficially flooded unlike the areas in the adjoining 24 Parganas, and more and more villages becoming free from malaria, no anti-mosquito measure, no mass quinisation being required.

4. Another example we are citing as a sample of what could be done by propaganda work by this society which has only begun, and not yet completed. This comprises the area around the north, eastern and southern outskirts of Calcutta and adjoining reclaimed areas to the south of Calcutta passing down to the Sundarbans. The position of affairs here is desperate. To make it understood, we begin with what is going on in the Bidyadhari. This tidal creek originates from a big tidal creek the Matla, which again originates from the Roy Matla which is a big arm of the sea bordering Bengal. This Bidyadhari, from its origin in the Matla first passes due northwards first forming

the eastern boundray of Diamond Harbour sub-division, then of the sadar or Alipore subdivision, then of the town of Calcutta, and from there it passes in north easterly direction by Dum Dum and then due east by Baraset subdivision, and joins with the big tidal creek the Haroa Gang originating from the Roy Mongal. From it a branch passing into the big salt lake situated in the south east of Calcutta, makes it tidal. Another branch now sluiced, connects it with the Tolly's Nalla originating from the tidal portion of Hoogly. Lower down, another tidal creek named the Peali having an origin independent of the Bidyadhari, joins the Bidyadhari at Narayanpur. To the south of the Tolly's Nalla which passes from west to east is situated the extensive Magrahat basin. This extensive area, bound on the west by the river Hooghly itself, on the north by the Tolly's Nalla, on the east by the Peali and on south partially by the Hooghly which passes here from west to east, and by some creeks, has been reclaimed in 1906, under a scheme known as Magrahat Scheme, being influenced by the same spirit of land hunger. As a part of the scheme, whole of this basin was bunded right through, except a small portion from Budge Budge to Garia, to prevent any water from the surrounding tidal water courses flooding it during flow tide. An extensive system of sluices has also been made in the banks at several places for exit of water from this basin and at the same time preventing any inflow of water during the flow tide. Three are situated on the southern bank of the bunded Tolly's Nalla and three on the Peali which is also embanked—the rest of the innumerable sluices are on the western and southern boundaries of this basin need not be described in connection with our present question. The result of the exclusion of tides into this vast lowlying area as well as other areas on the western side of the Bidyadhari has resulted in an extraordinary state of affairs which the framer of the Magrahat Drainage Scheme could not have ever dreamt. A canal named Arapanch has been shown in the Magrahat Drainage Scheme of 1906 as emptying the water of the basin into the Tolly's Nalla through a sluice, so that it can be surmised that the level of the basin must have been at that time much higher than that of the Tolly's Nalla. At the present time (1936) one will be astonished to learn that the present Executive Engineer of the same Irrigation Department,

whose officer devised the above scheme 30 years ago, has drawn up another scheme for relieving the terribly congested water of the Tolly's Nalla, through this very Arapanch into the basin and then into the Peali river situated a little to the south—thus reversing his predecessor's action. Not only that the Bidyadhari, once a big tidal creek, bringing in at every tide, huge quantity of silt, which would have filled up the Salt Lakes situated on the south east of Calcutta and also serving as an efficient drain for this portion including Calcutta during the ebb tide, being almost silted up is not capable of draining away now the (1) water which it itself even now brings during the flow tides (2) flow tide water of the Tolly's Nalla (3) rain water (4) and the sullage water of Calcutta so that we had to witness the extraordinary phenomenon during monsoon 1936, namely a good portion of the land nearly 10 square miles situated here, which have become elevated by deltaic action and used as homestead lands for nearly 100 years, was submerged during the rains (July to Nov. 1936) and as a result 0,000 thousand people had to take shelter in the streets of Calcutta. The congestion was so great that the water was flowing northward and emptying through the Circular Canals of Calcutta at Chitpur submerging Kosba and other suburbs of Calcutta, instead of draining southwards. The pressure was so great that it breached the Government embankment in the canal and passed into the Chitpur Khal situated on the north of Calcutta.

One of the bright features of this catastrophe, which is happening for some years, this year being the climax, but which will increase as years pass by, is the realisation by the zemindars, Government and the people of the true state of affairs and its cause and when a conference was organised by us at Garia, all anxiously joined in its deliberation—the zemindars on their part expressed their willingness to induce their tenants to give up their vested rights over the spill areas of these tidal creeks (Bidyadhari, Peali and Tolly's Nalla), and so the chief obstacle to the Government launching a big scheme for re-excavation of the channels is going to be removed. Another happy event is that due to continuous agitation against the policy in force now, of keeping up marginal embankments in immature lands in the tidal regions, a strong Government Committee is going to be formed to find out ways and means of doing away with these embankments.

Now, a word about the rural antimalaria societies. It is not possible nor desirable to give an account of these autonomus societies (they being not branches of the Central Society) in this report of the Central Society. Their number is increasing at a rapid rate. Though it must be admitted that some of the old societies have ceased to exist and some have shown extreme laxity in their work, yet it can be said in a general way, that majority are functioning and have succeeded in controlling malaria in their respective villages by adopting the dictum laid down by the Central Society that malaria is a local disease. We remain in touch with them through numerous conferences, periodical visits, though our journal "Sonar Bangla.", and through audit reports of these societies, kindly forwarded to us by the co-operative department.

Now, in concluding this report, I quote below, as a word of advice and encouragement to those who have consecrated their lives to the upliftment of the country by controlling malaria and who are laboriously working through good and bad report, unmindful of the carping criticism of those who are better placed in cities and so care a fig for their ancestral dwelling houses in the villages of Bengal, by a quotation from Carlyle's "Past and Present" "My friend, all speech and rumour are short lived, foolish, untrue ; genuine Work alone which workest faithfully that is eternal as the Almighty Founder and World Builder Himself ; stand by that ; and let the fame and the rest of it go prating.

"Heard are the Voices
 Heard are the Sages
 The World and the Ages
 Choose well, your choice is
 Brief and yet endless.

Here eyes do reward you
 In Eternity's stillness
 Here is all fullness
 To reward you
 Work, and despair not."

Goethe.

REFERENCES.

1. Addams Williams,
History of the Rivers of the Gangetic Delta.
 2. Hacket L. W.
Biological Factors in Malaria Control,
Reprinted from the American Journal of Tropical Medicine,
Vol 16, No. 3, May, 1936.
 3. Barber M. A. and Louis R. Forbrich,
Malaria in the Irrigated Regions of New Mexico,
Reprint No. 1577 from the Public Health Reports Vol. 48,
No. 22, June 2, 1933.
 4. Hackett L. W., E. Martini and A. Missiroli,
The Race of *A. maculipennis*. Reprinted from The American Journal of Hygiene, Vol. XVI, No. 1, 137-162, July, 1932.
 5. Mark F. Boyd and Warren K. Stratman—Thomas,
Studies on Benign Tertian Malaria. 5. On the Susceptibility of Caucasians. Reprinted from The American Journal of Hygiene, Vol. XIX, No. 1, 541-544, March, 1934.
 6. F. Boyd Mark and Warren K. Stratman—Thomas,
On the Duration of Infectiousness in Anophelines Harboring *Plasmodium Vitax*. Reprinted from The American Journal of Hygiene Vol. XIX, No. 2, 539-540, March, 1934.
 7. Mark F. Boyd, Tallahassee, Fla.
Observations on Naturally Induced Malaria,
Reprint from The Southern Medical Journal,
Journal of the Southern Medical Association,
Volume XXVII February 1934 No. 2, Birmingham Alabama.
-

Contributions received by the Society

From 1st January 1935 to 31st December 1935.

	NAME	Rs.	As.	P.
1.	Royal Calcutta Turf Club ...	940	0	0
2.	Miss J. MacLeod ...	1,000	0	0
3.	Mr. P. C. Coomar ...	100	0	0
4.	Director of Public Health, Bengal			
	(a) Anti-Malaria grant ...	1,800	0	0
	(b) Kala Azar grant ...	1,000	0	0
5.	Mr. Saila Kumar Mukherjee ...	10	0	0
6.	Salkia Bandhab Samity ...	425	8	0
	(sale proceeds of charity performance)			
		5,275	8	0

From 1st January 1936 to 31st December 1936

1.	Royal Calcutta Turf Club ...	705	0	0
2.	Miss J. MacLeod ...	1,000	0	0
3.	Mr. P. C. Coomar ...	50	0	0
4.	Dr. G. C. Chatterjee ...	25	0	0
5.	Director of Public Health Bengal			
	(a) Anti-malaria grant ...	2,000	0	0
	(b) Kala Azar grant ...	1,000	0	0
6.	Salkia Bandhab Samity ...	20	0	0
7.	Art Union Printing Works ...	10	0	0
8.	Messrs Bholanath Dutt & Sons ...	25	0	0
		4,835	0	0

Statement of Accounts OF The Central Co-operative Anti-Malaria Society Ltd.

(Registered Number 215 dated 5th July, 1919).

For the year ending 30th June, 1935.

NUMBER OF MEMBERS.

(a) Individual	...	...	51
(b) Society	...	...	12
(c) Number of Registered Societies.	...	...	930

Cash Accounts.

RECEIPT.

EXPENDITURE.

	Rs.	As.	P.		Rs.	As.	P.
1. Loans, Deposits & Investments recovered.				1. Investments.			
(a) B. P. C Bank Ltd.				(a) B. P. C. Bank Ltd.			
Share	7000	0	0	Current A/c	17223	14	3
(b) Do Current A/c	16987	1	11	(b) Post Office Savings Bank	4	0	5
2. Interest received	4763	11	5	(c) Govt. Promissary note	5000	0	0
3. Funds received.				2. Interest	82	10	2
(a) Contribution	4232	3	3	3. Deposit from non members refunded	170	0	9
(b) Kala-Azar	1059	4	0	4. Cost of managements.			
4. Other items.				(a) Establishment	3840	0	0
(a) Deposit	150	0	0	(b) Stamp & Stationery	195	11	3
(b) Subscription	18	0	0	(c) Electric Charges	89	9	9
(c) Sonar Bangla	237	4	0	(d) Printing	185	0	0
(d) Discount	156	4	0	(e) Miscellaneous	72	15	9
(e) Income Tax	13	15	9	5. Anti-Malaria Works.			
(f) Miscellaneous	7	0	0	(a) Panihaty Water Works	55	0	0
				(b) Sonar Bangla	3462	12	3
				(c) Propaganda	2114	2	9
				6. Kala-Azar	2109	4	3
Total	34624	12	4	Total	34605	1	7
Opening balance		53	12 6	Closing balance		73	7 8
Grand Total	34678	8	10	Grand Total	34678	8	10

The Central Co-operative Anti-Malaria Society Ltd.

Balance Sheet at 30 6 35.

<u>LIABILITIES.</u>			<u>ASSETS.</u>		
	Rs.	As. P.		Rs.	As. P.
1. Share	2235	0 0	1. Cash in hand	73	7 3
2. Donation	34321	14 3	2. Investments		
3. Tube well A/c (Panihaty)	326	12 0	(a) B. P. C. Bank		
4. Reserve fund	11700	0 0	Fixed deposit	7800	0 0
5. Other items			(b) B. P. C. Bank		
(a) Scholarship funds	150	0 0	Current A/c	1036	1 1
(b) Dhari training	1232	12 0	(c) Post Office		
(c) Anti-Malaria fund	7371	11 3	Savings Bank	7	4 5
(d) Anti-kala-Azar fund	9235	3 6	(d) Government papers	41000	0 0
(e) Anti-Cholera fund	854	2 0	(e) Calcutta Port		
(f) Conference fund	1000	0 0	Trust Debenture	35000	0 0
(g) Building fund	5000	0 0	3. Interest accrued in B. P. C. Bank on		
(h) Gangadharpur Estate	503	12 3	(a) Fixed deposit	273	0 0
6. Cost of management due	320	0 0	(b) Interest on current		
7. Undistributed profit	14951	2 9	deposit	23	5 0
			(c) Interest accrued on		
			Govt. papers	745	0 0
			(d) Interest accrued on		
			Calcutta Port Trust		
			Debenture	1093	12 0
			4. Tube-well account	410	0 0
			5. Stock	490	12 0
			6. Cinema Film Rs. 565/-		
			Less depreciation		
			Rs. 282/8/-	282	8 0
Total	89202	6 0	Grand Total	87835	1 9
Less loss of the year	1367	4 3			
Grand Total	87835	1 9			

Dated, Calcutta 16th January 1936.

P. C. Coomar. (President)
 G. C. Chatterjee. (Secy. and Treasurer)
 T. K. Ghose. (Director)

Subject to my separate report of even date. I report that I have obtained all the informations and explanations I have required and I hereby certify that the above Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Society's affairs according to the best of my information and the explanations given to me and as shown by the books of the Society.

Sd. F. Rahman
 Auditor of Co-operative Societies, Cal.

The Central Co-operative Anti-Malaria Society Ltd.

PROFIT AND LOSS ACCOUNT.

LOSS.

Rs. As. P.

1. Miscellaneous	65	15	9
2. Advance	25	0	0
3. Old & Rejected stocks			
12 Iron Chairs	2	11	0
2 tents	15	0	0
4. Loan due by Soodpur Society	167	10	0
5. Depreciation	282	8	0
6. Interest	82	10	2
7. Stamp & Stationery	195	11	3
8. Establishment	3840	0	0
9. Electric Charges	89	9	9
10. Sonar Bangla	3225	8	3
11. Propaganda	2114	2	9
12. Printing	185	0	0

Total 10291 6 11

Less loss of the year 1367 4 3

Grand Total 8924 2 8

PROFIT.

Rs. As. P.

1. Deposit	15	0	0
2. Interest	4488	11	8
3. Contribution	4232	3	3
4. Subscription	18	0	0
5. Income Tax	13	15	9
6. Discount	156	4	0

Grand Total 8924 2 8

Statements of Accounts OF The Central Co-operative Anti-Malaria Society Ltd.

(Registered Number 215 dated 5th July, 1919).

For the year ending 30th June, 1936.

NUMBER OF MEMBERS.

(a) Individual	...	...	49
(b) Society	...	...	11
(c) Number of Registered Societies			996.

Cash Accounts.

RECEIPT.

Rs. As. P.

1. Loans, Deposits & Investments recovered

(a) B. P. C Bank Ltd.			
Current A/c	46,404	12	9
(b) Govt. Promissary note	1,419	6	0
(c) Port Trust Debenture	35,000	0	0
2. Interest received	3,757	5	1

3. Funds received.

(a) Contribution	4	194	0
(b) Kala-Azar	1,000	0	0

4. Other Items.

(a) Advance	47	8	0
(b) Subscription	21	0	0
(c) Sonar Bangla	280	1	0
(d) Income Tax	44	15	9
(e) Panihaty Water Works	195	11	0
(f) Miscellaneous	20	7	3

Total 92,385 2 10

Opening balance 73 7 3

Grand Total 92,458 10 1

EXPENDITURE.

Rs. As. P.

1. Investments.

(a) B. P. C. Bank Ltd.			
Current A/c	45,392	11	9
(b) Fixed deposit	2,200	0	0
(e) Govt. Promissary note	33,615	2	0
2. Interest	284	6	0

3. Contribution

200 0 0

4. Kala-Azar

1,601 6 9

5. Advance

47 8 0

Cost of managements.

(a) Establishment 3,725 0 0

(b) Printing 162 12 0

(c) Income Tax 1 2 4

(d) Electric charges 103 15 0

(e) Miscellaneous 33 11 6

(f) Stamp & Stationery 186 7 3

7. Anti-malaria Works.

(a) Panihaty Water Works 498 11 0

(b) Sonar Bangla 2,790 11 9

(c) Propaganda 1,583 1 3

Total 92,426 10 7

Closing balance 31 15 6

Grand Total 92,458 10 1

The Central Co-operative Anti-Malaria Society Ltd.

Balance Sheet at 30.6.36.

LIABILITIES. ASSETS.

	Rs.	As.	P.		Rs.	As.	P.
1. Share	2,235	0	0	1. Cash in hand	31	15	6
2. Donation	34,321	14	3	2. Investments,			
3. Tube-well Panihaty	23	12	0	(a) B. P. C. Bank Ltd.			
4. Reserve Fund	11,700	0	0	Current A/c	24	0	1
5. Other items.				(b) B. P. C. Bank Ltd.			
(a) Scholarship fund	150	0	0	Fixed deposit	10,000	0	0
(b) Dhari training	1,232	12	0	(c) Post Office			
(c) Anti-malaria fund	7,371	11	3	Savings Bank	7	4	5
(d) Anti-Kala-Azar fund	8,633	12	9	(d) Govt. papers	74,500	0	0
(e) Anti-Cholera fund	854	2	0	3. Interest accrued			
(f) Conference fund	1,000	0	0	(a) B. P. C. Bank Ltd.			
(g) Building fund	5,000	0	0	Fixed deposit	239	0	0
(h) Gangadharpur Estate	503	12	3	(b) Govt. papers	1,331	4	0
6. Cost of management due	435	0	0	4. Tube-well A/c	10	0	0
7. Undistributed profit	13,583	14	6	5. Stock	490	12	0
Total	87,045	11	0	6. Cinema Film Rs. 282/8/-			
Less loss of the year	270	3	0	Loss depreciation			
Grand Total	86,775	8	0	Rs. 141/4/-	141	4	0
				Grand Total	86,775	8	0

Dated, Calcutta 25th September 1936

} P. C. Coomer. (President)
 } G. C. Chatterjee. (Secy. and Treasurer)
 } T. K. Ghose. (Director)

Subject to my separate report of even date. I report that I have obtained all the informations and explanation. I have required and I hereby certify that the above Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Society's affairs according to the best of my information and the explanations given to me and as shown by the books of the Society.

Sd. F. Rahman
 Auditor of Co-operative Societies, Cal.

The Central Co-operative Anti-Malaria Society Ltd.

PROFIT AND LOSS ACCOUNT.

<u>LOSS.</u>				<u>PROFIT.</u>			
	Rs.	As.	P.		Rs.	As.	P.
1. Miscellaneous	13	4	3	1. Profit to secure Govt.			
2. Depreciation	141	4	0	papers	1,304	4	0
3. Interest	284	6	0	2. Interest	3,192	8	1
4. Stamp & Stationery	186	7	3	3. Contribution	3,994	0	0
5. Sonar Bangla	2,510	10	9	4. Income Tax	43	13	5
6. Propaganda	1,583	1	3	5. Subscription	21	0	0
7. Electric charges	103	15	0				
8. Printing	162	12	0				
9. Establishment	3,840	0	0				
Total	8,825	12	6				
Less loss of the year	270	3	0				
Grand Total	8,555	9	6	Grand Total	8,555	9	6

STATEMENT OF ACCOUNTS

OF

The Central Co-operative Anti-Malaria Society Ltd.

Cash Account from 1st July 1936 to 31st December 1936.

RECEIPT.

	Rs.	As.	P.
B. P. C. Bank Ltd.			
Current A/c	4,717	7	3
Interest	1,363	13	9
Sonar Bangla	171	11	0
Contribution	3,084	9	0
Panihaty Water Works	80	0	0
Miscellaneous	10	5	0

EXPENDITURE.

	Rs.	As.	P.
B. P. C. Bank Ltd.			
Current A/c	4,478	6	9
Establishment	1,920	0	0
Sonar Bangla	1,134	6	0
Kala-Azar	1,210	13	3
Propaganda	498	5	6
Stamp & Stationaries	84	5	9
Electric charges	71	13	9
Contribution	29	12	0
Stock purchased	11	0	0
Miscellaneous	16	15	0

Total	9,427	14	0
Opening Balance	31	15	6
Grand Total	9,459	13	6

Total	9,455	14	0
Closing Balance	3	15	6
Grand Total	9,459	13	6

RESOLUTIONS.

Central Conference, Calcutta, 27th April 1935.

1. Babu Ganash Chandra Ghosh Roy, Dolekundi, Faridpur.

The Kumar River used to drain the Sadar, Madaripur and Gopalganj sub-divisions of Faridpore in a diagonal way and was the source of health, agriculture, industry and trade to thousands of villages along its banks but for the last 15 years it having silted up from Nilkhi on the Arial Khan to Rajeswardi and Basudebpur, there has been terrible obstruction to drainage with consequent increase of malaria and loss of boat route and deterioration of trade and agriculture.

It is resolved that the Irrigation Department and the District Board be requested to clean the silt from its origin at Nilkhi to Basudebpur, a distance of 8 miles, in order to restore the health, trade and prosperity of the country.

2. Dr Ramesh Ch. Biswas, M.B., South Kotwali, Faridpore.

The Khal which flows by the side of Faridpur town to Talma be cleared of silt at its origin and outfall and be connected with the Kumar. The Banstola Khal and the Lowa Gang which originate from the Kumar near Kanaipur and used to drain the Raukali Beel by flood water from the Kumar having been silted up has affected the health, agriculture and prosperity of the people of villages Raukali, Khaskandi, Purdia, Kasiabad etc.

Resolved that the silted up portion of the Banstala and Lowa Gang be excavated and they be connected with the Kumar in order to flush the Raukali Chapaigachi Beel and drain it properly.

3. Babu Kunja Behari Sardar, Sardarati, 24 Pergannas.

Resolved that steps be taken to declare at an early date the Pashkhali tributary of the Haroa Khal under the

Embankment Act for removing all fishing bars and bundhs in the khal.

4. Babu Sailajlal Chatterjee, B.L., Nimta, 24 Pergannas.

Resolved that the authorities be moved to remodel the Calcutta drainage outfall scheme in such a way so as to rectify the following evils and losses :—

(a) The sewage channel will obstruct the drainage of the locality lying north of the channel.

(b) If provisions be not made to clear the channel properly, it will be a source of trouble to the villagers of the neighbourhood as well as to Calcutta.

(c) The sewage channel emptying into the Kulti at its junction with the Kumarjole, the sewage will be carried up into the interior of the Basirhat, Barasat and Barrackpore sub-divisions along with the flow tides through the Kumarjole, Jagannath Bhangra, Haroa Gang, Arbelia Gang, Beliaghata Gang, Pashkhali, Nawie and Sunthi and spoil their adjoining bheries as well

5. Babu Ramanath Mondal, Hederhati, 24 Pergannas

The proposed sewage outfall of the Calcutta Corporation that is being aligned from Beliaghata eastwards upto Kulti when completed will surely increase the incidence of malaria, cholera and various other diseases and seriously affect the villages Karaidanga, Bhojerhat, Bhetipota, Kharamba, Tejalberia, Bairampur, Ghunimeghi, Khojermath, Narayanpur, Bagbati, Malinkundi, Amreswar, Maricha, Kalikapur, Bhangore, Dhara, Kantatola, Beonta, Hederhati, Chariswar, Chaltaberia, Panapukur etc will be a nuisance.

If the said sewage channel be excavated through the beels 2 miles to the south of the present alignment it would not affect any village. Attention of the Government and the authorities of the Calcutta Corporation be drawn to the matter.

6. Babu Lalit Mohon Sardar, Bainkari, Khulna.

We learn that the declared channel Kumrakhali khal, 2 miles to the south of the Bainkari Baor, is going to be excavated this year by Government. If the said khal be excavated the Beel Balli and the adjoining villages will be drained easily. The Kumra Khali bifurcates lower down in the Dantbhanga Beel into the Bhomra and Sreerampur khal, both of which empty into the Icchamaty, but there being cross bundhs in both the khals the health of the adjoining villages is affected and the crops in the Dantbhanga Beel and the adjoining low land are failing.

If the Government be pleased declare these two khals under the Embankment Act, we are prepared to excavate 4 miles of the undeclared portion of the channel at our own cost. The condition of the channel north of Bhomra and Srirampore khals being satisfactory there will be no obstruction to drainage.

7. Babu Harendra Lal Ganguly, Butani, Dacca.

(a) There being no river on the western side of Padma from Manikganj to Aricha Steamer station to flush the country and the western embankment of Padma being high and the country being low, water stagnates in that locality for 6 months.

Resolved that attention of the Irrigation Department be drawn to draw up a scheme at an early date to remove this unhealthy condition.

(b) The Sanitary Inspectors of each Thana Health Circle have been entrusted with such duties by the Public Health Department that it not possible for them to enquire about the health of the cultivators and the amount of quinine given to them for distribution among the villages within their elaka is too inadequate.

Resolved that the Government be requested to retrench the expenses in other departments in order to provide more quinine for saving the dying villages.

8. Babu Gobinda Prosad Pal, Bud Bud, Burdwan.

During the 19th Century there was a Sub-Division Head Quarter, Hospital and Dispensary at Bud Bud within thana Galsi of Burdwan district. With the removal of the sub-division, these two institutions have been abolished although Bud Bud being a central place these institutions attracted patients from all sides and people used to get relief,

Resolved that the attention of the Surgeon General with the Government of Bengal and the authorities of the District Board be drawn to establish a charitable dispensary in this wretched village at an early date.

9. Babu Satya Narayan Batabyal, Bud Bud, Burdwan.

(a) The malaria problem of Bengal is next in importance to the food problem and want of good drinking water in the villages has now engaged our attention. On account of extreme draught in the Galsi Circle, the people have been forced to drink muddy water for their sustenance.

Resolved that attention of the Government be drawn to solve the water scarcity problem of those villages by sinking pucca ring wells.

(b) The vents of the syphons underneath the newly constructed Damodar Canal for drainage of the river Kukui being not sufficient, the area will soon be waterlogged and become a breeding ground for mosquitoes. Attention of the Irrigation Department is drawn to this matter.

(c) Sections 27 and 28 of the Village Self Government Act though very useful for prevention of Malaria can hardly be applied lest the members of Union Boards will incur the

displeasure of the influential people. Attention of the Magistrates and the District Boards is drawn to see that these useful powers be effective.

10 Babu Anadi Nath Roy, Amarargarh, Burdwan.

Adequate numbers of culverts not being provided in the District Board Road in the south of our village, the rain water from the Sal forest (about 6000 bighas) flows into the Bandh which being out of order, the rain water stagnates in the south of our village and affords ample opportunities for breeding of mosquitoes. The attention of the authorities is drawn to put the bundhs in order and provide for irrigation of some lands and secondly the number of culverts in the District Board Road should be increased.

11. Babu Panchanan Roy, Fatepur, Jessore.

(a) The Fatepur Baor being connected with the Bhairab, water from the Bhairab passed into the Baor freely and enabled the people go by boat and afforded ample facilities for trade and agriculture. Recently the zemindar having put up bundh at its entrance in order to lease it out for fishery has obstructed its current and boat traffic and there is great dearth of water even for domestic consumption and over 1000 people of villages Fatepur, Kanaidanga, Ektarpur, Begumpore and other villages on the baor are suffering badly from malaria, cholera, dysentery etc. on account of the nasty stagnant water and the local trade and agriculture being affected, the people are ruined. If adequate steps be not taken now, the villages will be depopulated in near future. The local anti-malaria societies in order to rectify the defects have brought the matter to the notice of the authorities and the place has been inspected by the Director of Public Health, the Chief Engineer of the Irrigation Department and his assistants,

the Chairman of the District Board of Nadia, and Dr. G. C. Chatterjee, Secretary of the Central Co-operative Anti-Malaria Society on the occasion of the anti-malaria conference at Moheshpur.

Resolved that the benign Government be requested to take steps immediately to remove the obstructions, so that flood water from the Bhairab can freely enter into the baor and the beels connected with it and the water hyacinth and other aquatic vegetations are washed away by the current.

(b) Resolved unanimously that according to the provisions for nomination of 1/3rd of the members to all Union Boards, the Government be pleased to nominate secretaries of anti-malaria societies, medical officers, and teachers to the Union Board so that public health, agriculture and education problems of the villages can be properly tackled by these useful institutions

12. Babu Suresh Ch. Ghosh, Swastipur, Nadia.

In June 1932 at a conference of the anti-malaria societies of Kushtia sub-division held at Swastipur it was definitely ascertained that erection of the Talberia Embankment preventing the spill of the Padma, is the cause of silting up of the Kalabaria Chapaigachi Khal and according the resolutions passed at the conference, the Executive Engineer of the Nadia Rivers Division inspected the area and passed his opinion that in order to improve the health, agriculture and trade of the country the Talberia Embankment ought to be removed totally and this view has been fully endorsed by the Chief Engineer of the Irrigation Department (Mr. W. Rosche, C.I.E.).

After the second conference held at Poradah in June 1933, the said embankment was cut at 5 different places by the Government as a result of which plenty of flood water

entered the Kalabaria Chapaigachi Khal and flushed the villages along its banks for which the health and agriculture of the villages have improved considerably this year for which the villages are very much grateful to the Government.

The anti-malaria societies and the poor villagers of the locality now earnestly pray that these 5 cuts be protected properly by the Government so that the proprietors of the Embankment cannot close the cuts in future.

(b) The people are glad to learn that the Executive Engineer of Nadia Rivers Division has arranged for a survey of the said khal this year with a view to deepen it at places

The attention of the Government is drawn that their pious desire be carried out at an early date.

13. Babu Jugalpada Sen, Subalpore, Hooghly.

A. This conference thanks the authorities of the Irrigation Department for letting out sufficient water from the Damodar Canal to flush the Kana Damodar and the Saraswati rivers during the last 2 years and have thus saved the poor and thirsty cultivators of the villages along their banks. The department is requested to introduce water into the rivers throughout the year.

B. The antimalaria societies on either side of the Kana Damodar have cleaned all water-hyacinth from the bed of the river at tremendous sacrifice and labour but it has not been possible for them to remove the branches of overhanging trees and bamboos on either side which obstruct the current as well as boat traffic.

This conference request the District Boards of Hooghly and Howrah to pay attention to this matter and remove the obstructions by virtue of power vested under the Local Self

Government Act through the Union Boards or by any other means and that the work be completed before the advent of the rains.

14. Md. Kasim, Chowara-Banipur, Tippera.

The southern portion of Kotwali thana of Tippera district about 60 sq. miles being sloping and the hilly and valley regions being gradually reclaimed, the water from that area as well as the heavy rain water during the last few 4 years being obstructed by the A. B. Rly, the crops are flooded and the flood water stagnating for a long time. the locality has become extremely malarious although the area was absolutely free from malaria up to a few years back.

Resolved that the authorities be requested to make adequate arrangements to excavate a canal to the south of the Commilla Town up to Dakatia river by the side of the A. B. Rly. line, to drain this water

15. Babu Bepin Behari Dutt, Keshabpur, Jessore.

The Kapotakshi river has been badly choked up with water-hyacinth from Sagardari to Mohespur, a distance of 60 or 70 miles and the Harihar river in Keshabpur thana has been similarly choked up by hyacinth; and the villages Trimohini, Chandra, Mrizanagar, Satbaria etc. within Keshabpur thana are being devastated by malaria, there is no dispensary or high school nearby and the roads from Trimohini to Jessore, Jhinkargacha and Keshabpur become unfit for traffic during the rains.

Resolved that the Government be pleased to allot some money out of the allotment of the Viceroy's rural Development Fund for establishing some malaria and kala-azar treatment centres and 4 or 5 Tube-wells and high school in this locality in order to save those villages.

16. Babu Shyamsundar Batabyal, Ramnathpur, Hooghly.

The Basistha Ganga or Jole, which flows down to the south and west of Mahanad empties into the Kedarmati which river flows by the side of Dwarbasini and ultimately empties into the Kunti. These rivers used to drain the flood water of Ramnathpur and neighbouring villages but now being silted up, the locality has become an abode of malaria.

Resolved that in order to drain this locality the rivers should be re-excavated any how.

17. Abdul Hakim Mullick, Sijberia, Howrah.

The serpentine canal to the south of Sijberia village which empties into the Rajapur Khal passing underneath the B. N. Rly. line being overgrown with jungles and its bed being converted into tanks here and there, the villages are badly suffering in various ways for want of adequate drainage.

Resolved that a canal 3' x 1500' be excavated to drain the village and proper steps be taken so as not to allow the drain to be overgrown with jungles and not to allow the zamindars to lease it out in future.

18. Babu Dwijendra Nath Dutta, Devanandapur, Hooghly.

This conference resolves that the Sanitary Inspectors of District Boards and Municipalities should examine the accounts while inspecting the antimalaria societies and would teach them how to keep the accounts properly. The authorities of the Co-operative Department are requested to amend the Act and entrust the audit work of anti-malaria societies to them should necessity arise.

19. Babu Bhut Nath Bera, Bilwagram, Hooghly.

On the east of the Damodar there is a canal known as the Madaria or Roner Khal and on its eastern side there is a

low embankment (5 or 6 ft. high) damaged and overgrown with jungles giving shelter to wild animals and mosquitoes. As the locality is no longer over flooded by water from the khal and there being no chance of flood and the people have to pay unnecessarily for maintaining the embankment, it is resolved that the Government be pleased to remove or abandon the embankment instead of taxing the poor inhabitants any longer. If the Roner khal be resuscitated and if sufficient flood water be introduced into it from the Kana Damodar to flush the villages on the east, the lands will be elevated and become fertile and the villagers will be saved from the clutches of malaria.

20. Mv. Menhajuddin Ahmed, Bankirat, Pabna.

The "Jakshigacha Jola" river originating from Chalan Beel near Handial village used to bring down siltladen water from the Beel and used to fertilise about 200 villages in its south and east as it flowed eastwards to Jamuna but it having silted up the north eastern portion of Pabna district has been deprived of siltladen water and become unfertile and the people being devastated by malaria.

The benign Government and the District Board are requested to excavate a canal from Handial to Chalan Beel for the benefit of the villagers.

21. Babu Kalipada Biswas, Udoynagar, Murshidabad.

Last year, on account of flood in Murshidabad district, the health and agriculture of the villages along the Gobra Nala have improved considerably.

The Government be requested to take steps at an early date to flush this locality every year with flood water from the Padma through the Gobra Nala in a regulated way.

22. Babu Tarapada Sen, Natagore, 24 Pergannas

As the health and agriculture of this locality depends on the speedy draining out of the Khepli and the adjoining

beels between the Hooghly and the Nowie, the Khardah Khal, the only drainage channel of the beels ought to be properly deepened and widened and the sluice, jungles and all other obstructions in the khal under the bridge in Pran Krishna Biswas Road at Khardah be removed without further delay.

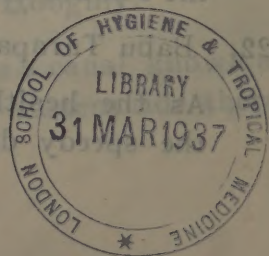
23. Babu Bijoy Ratna Sinha, Paschim Bakulda, Midnapore.

As the drainage channel of Paschim Bakulda and other neighbouring fields have been obstructed, all efforts of the local anti-malaria societies are being nullified.

Resolved that the Irrigation Department be requested to flush the locality with silt water from the Kansai by constructing a sluice in the river embankment at Brindabanpur and draining the flood water into the Durgachati river through the Khanadihi sluice via Jasra, Bahar and Alita Math and Tapa Khal. In spite of sufficient slope from Brindaban Dhalu, Khanadihi about 1 ft. of rain water now accumulates in the locality which should be drained at the same time.

24. Babu Makhan Chandra Chowdhury, Haripur, Pabna.

The Boral river which originates from the Padma near Charghat used to empty into the Jamuna, but it now being silted up, the neighbouring villages have been reduced to a miserable condition. In order to resuscitate the river and save the villages of Northern Bengal from desolation, the authorities of the Irrigation and Public Health Departments should spend the whole of the Rural Development Fund of the India Government grant for improvement of the dead and dying rivers of Bengal, the heart and soul of Bengal and that the resuscitation of the Boral be taken up first.



How the Society's Funds are Utilised.

(1) To carry on propaganda work. (2) To meet travelling expenses for organising Anti-Malaria and Public Health Societies in rural areas and to group them together. (3) To meet the expenses for running Kala-Azar Centres. (4) To publish SONAR BANGLA, the monthly bilingual organ of the Central Society to publish the reports of the rural societies and to review their results and to circulate the journal among the rural societies, local and public bodies and various departments of Govt.

N. B.—The Board of Directors frame rules from time to time about disbursement of the funds of the Society.

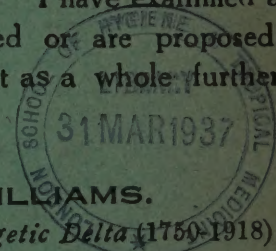
The following gentlemen presided over the previous Annual Meetings of the Society :

- I. Late Hon'ble Justice
Sir A. Chowdhury, Kt., M.A., *Bar-at-law*
on 16th April 1921 at the Rammohan Library.
- II. Mr. J. N. Gupta, C.I.E., M.B.E., I.C.S.
on 29th April 1922 at the Indian Association.
- III. Sir P. C. Ray, Kt., C.I.E., D.Sc.,
on 29th April 1923 at the Overtoun Hall,
- IV. Dr. Rabindra Nath Tagore, N.L., D.Litt.
on 23rd February 1924 at the Alfred Theatre.
- V. Dr. Sir J. C. Bose, Kt., C.I.E., C.S.I., D.Sc., F.R.S.
on 21st March 1925 at the Albert Hall.
- VI. Dr. Sir P. C. Ray, Kt., C.I.E., D.Sc.,
on 24th April 1926 at the University Institute.
- VII & VIII. Dr. Sir Nilratan Sircar,
Kt., C.I.E., M.A., M.D., D.L.
on 31st December 1927 at the Albert Hall,
- IX. Dr. Sir Malcolm Watson, Kt., M.D., D.P.H.L.L.D.
Principal, Department of Malaria Control, Ross Institute, London,
on 23rd February 1929 at the Albert Hall,
- X. Dr. W. A. P. Schueffner.
President, League of Nations' Malaria Commission,
on 26th October 1930 at the Albert Hall.
- XI. Late Sir Charles C. McLeod Bt.
Chairman, Ross Institute, London,
on 15th February 1931 at the Albert Hall,
- XII. Sir C. V. Raman, Kt., D.Sc., F.R.S., N.L.
on 20th April 1932, at the Albert Hall,
- XIII. Miss Josephine MacLeod
on 4th March 1933 at the Albert Hall.
- XIV. Late Sir Charles C. McLeod, Bt.
Chairman, Ross Institute of Hygiene and Governor, London
School of Tropical Medicine and Hygiene on 18th February 1934.
- XV. Major General D. P. Goil, M.B., Ch.B.,
F.R.C.S.E., K.H.S., I.M.S.
Surgeon General with Government of Bengal, on 27th April 1935.

“WITH regard to embankments, our experience has been that where ever they exist they have raised problems as great if not greater than those with which they were intended to deal, either in course of time they have raised flood levels or have led to the extinction of the rivers by causing silting and have brought about waterlogging and severe epidemics of Malaria and other diseases. It is significant that where the rivers are most active the people enjoy health and prosperity ; the most malarious tracts are those in which the river system is composed of dead river beds encroached on by every sort of means and the country is in a waterlogged condition. I have examined a large number of cases in which works have been executed or are proposed, and I feel convinced that unless the questions are looked at as a whole further mistakes will be made.”

C. ADDAMS WILLIAMS.

History of the Rivers of the Gangetic Delta (1760-1918)



“WE see them plagued with malaria and without any fish to strengthen them. We see them in the middle of dull surroundings, with nothing to take them out of themselves. Introduce the wholesale overflow irrigation which they had until 70 years ago, and you will have a physical, mental and spiritual resurrection. You will have the co-operation of all for the benefit of all, and this will at once add interest to their lives. They will wake up and find life interesting. They will find their old enemy malaria loosening its hold on them. They will have abundance of fish to eat, and they will see prosperous days before them and before their neighbours. In this prosperity and well being the Government will have its full share ; and may God's blessing be with all those who help to bring this about.”

WILLIAM WILLCOCKS.

(Ancient System of Irrigation in Bengal)